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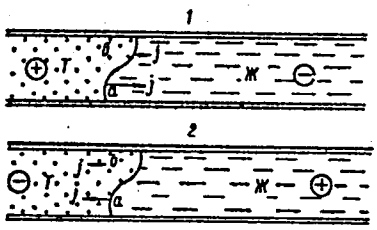
Crystallization of Bi, ...

Legend to Fig. 3:
schematical representation of the phase boundary;
1) crystallization with application of current;
2) melting with application of current.



Card 6/6

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L 16147-65 EWT(1)/EWG(k)/T/EWA(h) Pz-6/Peb IJP(c)/ESD(t)/AFWL/ASD(a)-5/
ASD(m)-3/AS(mp)-2 AT
ACCESSION NR: AP4045635 S/0020/64/158/002/0442/0445

AUTHORS: Semenkovich, S.A.

TITLE: Thermocynamic potential and width of the forbidden zone of semiconductor compounds

SOURCE: AN SSSR. Doklady*, v. 158, no. 2, 1964, 442-445

TOPIC TAGS: thermodynamic potential, forbidden zone, forbidden zone width, semiconductor, activation energy, electron, hole, activation process, Gibbs thermodynamic potential, equilibrium condition, semiconductor dissociation, thermodynamic data, temperature coefficient

ABSTRACT: Considering that a large part of the activation energy of the fundamental charge carriers represents chemical transformation, values of experimentally obtained temperature coefficients of the zone width may afford conclusions on the dissociation process. This consideration is based on observed changes of entropy (10-25 cal/g). The work concerns the activation process of the charge carrier, represented by dissociation of the semiconductor with subsequent charge carrier activation. The activation process for electron and hole may be represented by (1)

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$$AB_{тв} \rightleftarrows A^{+} + e + B' + д, \quad \Delta Z_1 = \Delta E; \qquad (1)$$

for which (2) and (3) may be written.

$$AB_{тв} \rightleftarrows A + B, \quad \Delta Z_2; \qquad (2)$$

$$A + B \rightleftarrows A^{+} + e + B' + д, \quad \Delta Z_3. \qquad (3)$$

The sum of the reaction energy is $\Delta Z_2 + \Delta Z_3 = \Delta Z_1 = \Delta E$. . To obtain ΔZ_2, the state of the dissociation products AB has to be determined, thus the equilibrium of the solid semiconductor with its vapor. If change of the Gibbs thermodynamic potential for these equilibrium conditions is known, the energy value for AB dissociation can be obtained. This also permits determination of which products of AB dissociation, corresponding to the minimum dissociation energy, are formed in equilibrium with the solid semiconductor and what work has to be expended for dissociation of AB at atmospheric pressure. Dissociation of solid aluminum antimonide is taken as an example; the thermodynamic data are tabulated for certain semiconductors, calculated Gibbs dissociation potentials, experimentally obtained widths of forbidden zones and the corresponding temperature coefficients. The

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ACCESSION NR: AP4045635

table shows that the dissociation energies of the semiconductors coincide with the width of the forbidden zones (taking errors into account). Temperature coefficients also agree satisfactorily with these values. It may thus be concluded that the basic energetic process related to formation of the fundamental carriers of current is the dissociation of semiconductors under the influence of exterior energy. The Gibbs potential determines essentially the width of the forbidden zone of semiconductors. Orig. art. has: 5 formulas and 1 table.

ASSOCIATION: Institut poluprovodnikov Akademii nauk SSSR (Institute of Semiconductors, Acad. of Sciences, SSSR)

SUBMITTED: 21Apr64 ENCL: 00

SUB CODE: SS NR REF SOV: 010 OTHER: 013

Card 3/3

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 58811-65 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c)
JD/JW/AT

ACCESSION NR: AP5015692 UR/0076/65/039/006/1483/1488
621.315.592.541.11

AUTHOR: Semenkovich, S.A.

TITLE: Energy of transition of certain elemental semiconductors to the metallic state

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 6, 1965, 1483-1488

TOPIC TAGS: semiconductor charge carrier, silicon, germanium, tin, elemental semiconductor, metallic semiconductor, transition energy, free energy

ABSTRACT: Chemical thermodynamics was used to calculate the energy of transition of silicon and germanium to the metallic state. The Gibbs free energy corresponding to the transition from the solid covalent to the solid metallic state for elemental semiconductors of group IV of the periodic system was found to be equal to the forbidden gap width. The temperature and pressure coefficients for this process agree with the corresponding activation energy coefficients of the intrinsic carriers (a good quantitative agreement is observed). Such agreement between the thermodynamic characteristics indicates that the processes of transition of germanium to the metallic state and the processes of activation of intrinsic carriers in elemental semiconductors of group IV are identical. This is also confirmed by the transition of gray α tin to the metallic

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 58811-65

ACCESSION NR: AP5015692

5

state. "In conclusion, the author thanks A.R. Regel', L.S. Stil'bans, A.M. Yelistratov, and V.P. Zhuze for interest in this work and valuable suggestions." Orig. art. has: 4 tables and 7 formulas.

ASSOCIATION: Institut poluprovodnikov, Akademiya nauk SSSR (Institute of Semiconductors, Academy of Sciences, SSSR)

SUBMITTED: 28Oct64 ENCL: 00 SUB CODE: SS, TD

NO REF SOV: 010 OTHER: 014

Card 2/2 dlp

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 1149-66 EWT(1)/T/EWA(h) IJP(c) AT

ACCESSION NR: AP5023688 UR/0076/65/039/009/2232/2236
541.17 + 541.6

AUTHOR: Semenkovich, S. A. 44,55

TITLE: Correlation between the forbidden gap widths of chemical and structural analogs

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 9, 1965, 2232-2236

TOPIC TAGS: forbidden zone width, semiconductor carrier, semiconductor crystal, activation energy

ABSTRACT: It is assumed that the Karapet'yants-Lautié law is applicable to the chemical activation energy of electrons in groups of semiconductor analogs. This law encompasses chemical and structurally similar compounds and is expressed by

$$\Delta Z_1 = a'\Delta Z_2 + b',$$

where ΔZ_1 and ΔZ_2 are the activation energies of electrons and holes in a group of similar semiconductors, and a' and b' are constants. Comparison with the well-known correlation $\Delta E = a\Delta z + b$, where ΔE is the forbidden gap width, Δz is the index of the

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ACCESSION NR: AP5023688

3

proportional activation energy, and a and b are constants which differ with different groups of analogs, shows that the correlation $\Delta E_1 = a''\Delta E_2 + b''$, where ΔE_1 and ΔE_2 are the forbidden gap widths of the analogs and a'' and b'' are constants, should exist between the forbidden gap widths of different groups of semiconductors. This will be the case if the Karapet'yants-Lautié law is applicable to the activation energy of intrinsic carriers in semiconductors. This is confirmed by graphs of the linear correlation of forbidden gap widths for binary semiconductor compounds $A^{III}B^{V}$, intermetallic compounds Me_2A, and $Me_2^{I}X_3$ (respectively Me-Mg, Ca; A-Si, Sn, Pb; Me'-Sb, As, In, Bi, Ga; X-O, S, Se, Te). In concordance with the law, the temperature coefficients of the gap widths of the homologs are similar in magnitude. The method makes it possible to find gap widths of unknown compounds, and may be used for checking experimental data, particularly in the case of compounds of complex composition. Orig. art. has: 2 figures, 2 tables, 3 formulas.

ASSOCIATION: Leningradskiy institut fiziki tverdogo tela i poluprovodnikov (Leningrad Institute of Solid State Physics and Semiconductors)

SUBMITTED: 25Jun64 ENCL: 00 SUB CODE: EM, GC

NO REF SOV: 009 OTHER: 008

Card 2/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 36873-66 EWT(m)/EWP(j)/EWP(t)/ETI IJP(c) RDW/RM/WW/JW/JD
ACC NR: AP6018092 (N) SOURCE CODE: UR/0202/66/000/003/0020/0024

AUTHOR: Sadykov, K. B.; Semenkovich, S. A.

ORG: Physico-technical Institute, AN Turkmen SSR (Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR); Institute of Semiconductors AN SSSR (Institut poluprovodnikov AN SSSR)

TITLE: Investigation of thermodynamic properties of germanium telluride

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1966, 20-24

TOPIC TAGS: thermodynamic property, germanium compound, tellurium compound, thermal emf, telluride, standard enthalpy, entropy

ABSTRACT: The changes of standard free energy ($-\Delta G^\circ$), enthalpy ($-\Delta H^\circ$), and entropy ($-\Delta S^\circ$) of formation of germanium telluride were determined by the electrochemical method. The changes of ΔG, ΔH, and ΔS for the reaction $Ge_{solid} + Te_{solid} \rightleftharpoons GeTe_{solid}$ were studied in the 553°-653°K range by means of measuring the thermal emf of the following cell:

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 38490-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) RDW/DS/JD/JW
ACC NR: AP6018093 (N) SOURCE CODE: UR/0202/66/000/003/0025/0028

AUTHOR: Sadykov, K. B.; Semenkovich, S. A. 58

ORG: Physico-technical Institute, AN TurkmSSR (Fiziko-tekhnicheskiy institut AN TurkmSSR); Semiconductor Institute, AN SSSR (Institut poluprovodnikov AN SSSR) 56 B

TITLE: Investigation of the thermodynamic properties of lead selenide by the method of electromotive forces 27 27

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 3, 1966, 25-28

TOPIC TAGS: thermodynamic property, lead compound, selenide, electromotive force

ABSTRACT: The experiments were carried out on alloys with the composition of 52.54-56.58 atom % Se in the heterogeneous region PbSe + Se. The materials for the electrodes were 99.999% lead and 99.99% selenium. The alloys were prepared by melting of the components in evacuated quartz ampoules, and were then annealed at a temperature of 400°C for 50 to 60 hours. The electrolyte in the cell was a mixture of potassium chloride and lithium chloride of eutectic composition. A very

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UDC: 66.021.2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

AID P - 1644

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 3/19

Author : Semennikov, A.

Title : Promotion of aviation knowledge in factories

Periodical : Kryl. rod., 3, 4, Mr 1955

Abstract : The author gives examples of the activity of DOSAAF members in the automobile factory im. Stalin. This activity consists of organized meetings, vists from well-known personalities, lectures, etc. Some names are mentioned. Photo.

Institution: Automobile Factory im. Stalin, DOSAAF (All-Union Voluntary Society for the Promotion of the Army, Aviation, and the Navy)

Submitted : None

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOV, V.S.

Symptom of pelvic compression in children and juveniles in an automobile accident trauma. Sud.-med. ekspert. 6 no.3: 22-24 Jl-S'63. (MIRA 16:10)

1. Kafedra sudebnoy meditsiny (zav. - dotsent V.N.Kryukov) Altayskogo meditsinskogo instituta.
(PELVIS--FRACTURE) (TRAFFIC ACCIDENT INVESTIGATION)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOV, Yu.

USSR/Electronics - Television Mar 52
Video Amplifiers

"A New Video Amplifier Cirucit," Yu. Semennikov, M. Sirotyuk

"Radio" No 3, pp 31-34

Describes a new system for correcting the frequency response of video amplifiers based on the use of neg feedback instead of correcting coils. States that good results were obtained with a 2-tube amplifier in which the 1st stage is uncorrected while the 2d is corrected to give a uniform over-all frequency response for both stages.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOV, Yu, SIROTIUK, M.

Amplifiers, Vacuum-Tube

New circuit for amplifier of image signals. Radio, 29, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

OSHCHEPKOV, P.K.; ROZENBERG, L.D; SEMENNIKOV, Yu.B.

Electronic and acoustic converter for the visualization of sound patterns. Akust. zhur. 1 no.4:348-351 O-D '55. (MLRA 9:2)

1.Akusticheskiy institut i Institut metallurgii imeni A.A.Baykova AN SSSR.
(Electroacoustics) (Oscillators, Crystal) (Ultrasonic waves)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOV, Yu.B.

USSR / Acoustics. Ultrasound J-4

Ref Jour : Ref Zhur - Fizika, No 5, 1957, No 12705

Author : Semennikov, Yu.B.

Inst : Acoustics Institute of the Academy of Sciences, USSR

Title : Amplifier for Ultrasonic Measurements.

Orig Pub : Pribory i tekhn. eksperimenta, 1956, No 1, 61-63

Abstract : The author proposes a sensitive broadband amplifier for ultrasonic measurements. The amplifier circuit is based on the measuring of the amplitude of the envelope of amplitude-modulated ultrasonic signals. The use of deep complex feedback makes it possible to obtain a flat frequency characteristic up to 10 Mc. The amplifier is designed for the measurement of signals, modulated by frequency of 400 ± 5

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

Investigation of an Electron-Acoustic Convertor.

Oshchepkov, Rozenberg and Semennikov reported results obtained with the first practical e.a.c. (Ref.3). Sensitivity of this convertor was high (3×10^{-9} W/cm^2). The working principle of the electronic part of e.a.c. and calculations of its threshold sensitivity were given by Zernov in 1952 (Ref.4). The present paper reports results of more detailed investigation of the mechanism of formation of the electric signal in e.a.c., and calculation of the basic electrical parameters of the convertor. Mechanism of excitation of the p.e. plate by the ultrasonic field is not discussed. The author deduces the basic relationships for determination of the output signal in e.a.c. as a function of the acoustic pressure for a diven contrast of the electrical image. An experimental method of determination of the equivalent electrical parameters of e.a.c. is described. The author also calculates the minimum sound pressure p_{min} required in an e.a.c. with a barium titanate p.e. plate to produce an electrical image with contrast equal to unity. For a working frequency of 1 Mc/s p_{min} is calculated to be 44 bars. An experimental

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Investigation of an Electron-Acoustic Convertor. 46-4-1-11/23

determination of p_{min} at the same frequency of 1 Mc/s, using a barium titanate plate of 100 mm diameter, gave 20-70 bars. A calculation was carried out also for an e.a.c. which uses a quartz plate; p_{min} for quartz was found to be 250 bars. This result shows that, although the p.e. sensitivity of quartz is considerably higher than that of barium titanate, because of the low value of the dielectric constant of quartz the sensitivity of an e.a.c. using quartz is smaller. In an Appendix the author criticizes Prokhorov's paper (Ref.5) on the subject of the working principle of e.a.c., which is said to contain a number of fundamental errors. There are 11 figures, 1 table and 5 Soviet references.

ASSOCIATION: Acoustics Institute, Academy of Sciences of the USSR, Moscow. (Akusticheskiy institut AN SSSR, Moskva.)

SUBMITTED: May 14-September 2, 1957.

Card 3/3 1. Convertors—Sensitivity 2. Convertors—Pressure distribution 3. Convertors—Characteristics

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOV, Yu. B.

PHASE I BOOK EXPLOITATION SOV/3528

Moscow. Dom nauchno-tekhnicheskoy propagandy

Primeneniye ul'trazvuka v promyshlennosti; sbornik statey (Industrial Use of Ultrasound; Collection of Articles) Moscow, Mashgiz, 1959. 301 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (Title page): V.F. Nozdrev, Doctor of Physical and Mathematical Sciences, Professor; Ed. (Inside book): O.F. Kochetova, Engineer; Tech. Ed.: V.D. Il'kind; Managing Ed. for Literature on Machinery and Instrument Manufacturing (Mashgiz): N.V. Pokrovskiy, Engineer.

PURPOSE: This book is intended for engineers and technicians engaged in the application of ultrasonics in machinery manufacture and in other branches of industry.

COVERAGE: This is a collection of papers read at the first all-Union conference on the use of ultrasonics in industry. Attention is focused mainly on the description of ultrasonic equipment and on the use of ultrasound for the machining of hard materials and for flaw detection. The effect of ultrasound on metal-crystallization processes is also discussed. No personalities are mentioned. References accompany many of the papers.

Mitayborodskiy, Yu.I., Engineer; and M.G. Korzh, Candidate of Technical Sciences. Ultrasonic Equipment for Industrial Applications 64

Markov, A.I., Candidate of Technical Sciences, Docent. Design and Construction of Vibrators for Ultrasonic Machining 77

Bulycheva, I.N., Candidate of Technical Sciences; Ya.I. Gurvich, Candidate of Technical Sciences; and Ya.P. Selisskiy, Candidate of Technical Sciences. Magnetic Alloys for Ultrasonic Applications 91

Makarov, L.O., Engineer. Methods of Making Design Calculations for Bar-Type Exponential Ultrasonic Concentrators 102

Golyamina, I.P. Use of Ferrites as Ultrasonic-Wave Radiators 115

Semennikov, Yu.B., Engineer. Method of Transforming Input Resistance of a $\lambda/4$-Bar Radiator 125

Strotyuk, M.O., Engineer. Matching a Generator of Electric Oscillations With a Quartz Radiator Directly Connected With the Generator Circuit 129

Kramin, B.N., Engineer. Characteristics of the Ultrasonic Machining of Metals 136

Pisarevskiy, M.M., Candidate of Technical Sciences; and A.A. Klimov, Engineer; and V.G. Averyanova. Some Problems in Using Experience Gained at the Leningradskiy Metallicheskiy Zavod (Leningrad Metal-Products Plant) in the Ultrasonic Drilling of Holes in Quartz Plates 146

Dyakhenko, P.Ye., Doctor of Technical Sciences, Professor; Yu. A. Mirokhin, Engineer; and V.G. Averyanova. Some Problems in Ultrasonic Machining of Materials 149

Teumin, I.I., Candidate of Physical and Mathematical Sciences. Effect of Elastic Vibrations on the Crystallization and Processing Properties of Alloys 163

Bagdasarov, Kh.S., Candidate of Chemical Sciences. Effect of Ultrasonic Vibrations on the Process of Crystallization 175

Shrayber, D.S., Candidate of Technical Sciences. Ultrasonic Flaw Detection 184

Yermolov, I.N., Engineer. Ultrasonic Instruments Developed by TsNIITMASh for the Measurement of Thickness and Product Control 211

Gubanova, M.R., Candidate of Technical Sciences. Ultrasonic Detection of Flaws in Massive Welds 223

Yegorov, N.N., Engineer. Ultrasonic Inspection of Case Depth in Electrically Hardened Steel Products 240

Babkin, N.V., Engineer. Design of Piezoelectric Transducers for Ultrasonic Flaw Detectors 253

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

24(1), 9(6) SOV/46-5-3-26/32

AUTHOR: Semennikov, Yu.B.

TITLE: Letter to the Editor (Pis'mo v redaktsiyu)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol 5, Nr 3, pp 381 (USSR)

ABSTRACT: Semennikov answers Prokhorov's letter (see preceding abstract) and shows why all his criticisms of Prokhorov's work on electron-acoustic converters (Ref 2) were justified. There are 3 Soviet references.

ASSOCIATION: Akusticheskiy institut, AN SSSR, Moskva (Acoustics Institute, Ac. Sc. USSR, Moscow)

SUBMITTED: May 16, 1959

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

CSHCHEPKOV, P.K.; ROZENBERG, L.D.; SEMENNIKOV, Yu.B.

Electronic acoustic transducer for the visualization of sound images.
Akust.zhur. 7 no.2:268 '61. (MIRA 14:7)

1. Akusticheskiy institut AN SSSR, Moskva.
(Sound waves) (Transducers) (Electron optics)

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6.6000 (3502 only)
6.8000 (and 1063, 1155)

S/046/61/007/001/008/015
B104/B204

AUTHOR: Semennikov, Yu. B.

TITLE: Some problems of the operation of an electronic-acoustic converter

PERIODICAL: Akusticheskiy zhurnal, v. 7, no. 1, 1961, 73-77

TEXT: The selection of the load impedance of an electronic-acoustic converter (eac) is studied. In a previous paper, the author was already able to derive a formula for the fluctuation noise in a capacitive load of an eac:

$$U_n = \frac{2.98}{f \cdot C_{out}} \sqrt{(1 + 0.175 \cdot 10^{-2} \cdot f^2 C_{out}^2 \cdot R_n)\Delta f}$$

Here, f denotes the frequency of ultrasonics in Mc, C_{out} is the load capacity in microfarad, I - the beam current of the eac in microamperes, R_n - the noise resistance of the amplifier input tube, and Δf the transmission band of the television channel in kc. In the present paper, the author derives an analogous formula for the fluctuation noise of an eac loaded with a resonant circuit. He obtains the relation

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

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B104/B204

Some problems of ...

$$U_n = \sqrt{1240/c_{out} + R_n \cdot \Delta f/64 + 2.22 \cdot 10^6 \cdot I/c^2_{out} \cdot \Delta f} \quad (4)$$

The quality of an ultrasonic image produced with the help of an eac depends on f and the acoustic-optical parameters, and is thus connected with the number of scanning rows necessary for the transmission of these parameters. The minimum dimension of an element of a sound image is determined from the diameter of the first diffraction maximum. This radius is known to be calculated by means of the relation $r_o = 1.22\lambda F/D$. If, by O one denotes the relative aperture of the lens, it holds: $r_o = 1.22c_{med}/Of$, where c_{med} is the velocity of sound in the medium in km/sec, f in mc, r_o in millimeters. Furthermore, the already known relation for the capacity of the scanning element is given, and it is found that for increasing the sensitivity of the eac, the piezoplate should be used as thickness oscillator. Thus, the most favorable number of scanning rows may be determined. For this case, as already shown in the author's earlier paper, the video-signal band equals:

$$\Delta f = 0.1\ ma^2f^2O^2/3c^2_{med}$$

Here, Δf is given in kc, m is the image repetition frequency, a the scanning distance in centimeters, and f the ultrasonic frequency in mc. From a

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 8325-66

ACC NR: AP5028047 SOURCE CODE: UR/0046/65/011/004/0438/0441

AUTHOR: Grasyuk, D.S.; Oshchenkov, P.K.; Rozenberg, L.D.; Semennikov, Yu. B.

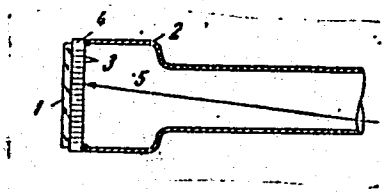
ORG: Institute of Acoustics, AN SSSR, Moscow (Akusticheskiy institut AN SSSR)

TITLE: An ultrasonic acoustic visor with a new U-55 electronic-acoustic image converter

SOURCE: Akusticheskiy zhurnal, v. 11, no. 4, 1965, 438-441

TOPIC TAGS: ultrasonic equipment, electronic device, acoustic equipment, image converter

ABSTRACT: The authors present a description of a new U-55 electronic-acoustic image converter in which the piezoelectric receiving plate is not one of the walls of the vacuum vessel, as opposed to image converters in common usage which use a wall (usually the front wall) of the vacuum vessel as the plate. A schematic diagram of the device is presented (Fig. 1). It is



1 - Receiving piezoelectric plate; 2 - Converter body; 3 - Thin metal lead-in; 4 - glass plate; 5 - electron beam.

Card 1/2 UDC: 620.179.16

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

noted that the converter is capable of copying the image of any electric contour incident on its surface, regardless of the origin of the contour, i.e., it may be used in a system with any contour source such as infrared or electrolytic. It has been named a "unicon" (unikon) (universal converter) because of its universal applicability. An acoustic visor (introscope) designed on the basis of the new converter, operating in the 3--9 Mc range, has been tested. Several examples of its application are given and discussed. It is noted that the examples presented show that the introscope makes it possible to obtain satisfactory images of a great variety of objects and may become the prototype of industrial units for obtaining visible images of defects in metals and plastics, and may also be utilized in medical diagnostics. Authors express their gratitude to V.I. Rybalka, M.A. Gorodnicheva, T.I. Didyus', R.G. Molchanova, V.I. Stepanov, S.I. Filipov, and V.I. Fomin, who participated in the development, construction, and tests of the converter and the ultrasonic introscope. Orig. art. has: 8 figures.

SUB CODE: GP, IE / SUBM DATE: 17Aug65 / ORIG REF: 006 / OTH REF: 005

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

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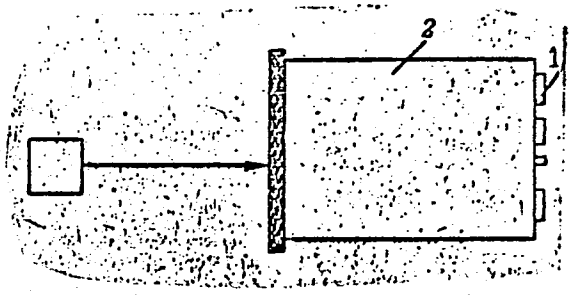
ACC NR: AP6015628

Fig. 1. 1 - convex drawing; 2 - waveguide



Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 12Jan59

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOVA, Nina Vladimirovna; OKUN', Yakov Mikhaylovich; [illegible], M.G., red.

[Leningrad in three days; a short story for those who come to our city and want to get acquainted with its artistic landmarks] Leningrad za tri dnia; eto kratkii rasskaz dlia tekh, kto, priekhav v nash gorod, khochet poznakomit'sia s ego khudozhestvennymi pamiatnikami. Leningrad, Iskusstvo, 1965. 161 p. (MIRA 18:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENNIKOVA, Nina Vladimirovna; OKUN', Yakov Mikhaylovich; KOLESOVA, Z.N., tekhn. red.

[Leningrad in three days; a brief story for those who come to our city and want to become acquainted with its artistic monuments]Leningrad za tri dnia; eto kratkii rasskaz dlia tekh, kto, priekhav v nash gorod, khochet poznakomit'sia s ego khudozhestvennymi pamiatnikami. Leningrad, Izd-vo "Iskusstvo," 1962. 163 p. (MIRA 15:11)
(Leningrad--Guidebooks)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., inzh.

OHM single-plunger fuel pump. Tekh. v sel'khoz. 20 no.7:79-81 Jl '60. (MIRA 13:9)
(Fuel pumps)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

"Three-year plan of the plant." NTO no.11:56 N '59.
(MIRA 13:4)

1. Predsedatel' zavodskogo komiteta profsoyuza zavoda "Zaporozhstal'."
(Zaporozh'ye--Steelworks)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., kolkhoznik; VOZDVIZHENSKIY, A.

Readers' letters. Sel'.stroi. 14 no.12:29 D '59.
(MIRA 13:4)

1. Glavnyy inzhener otdela stroitel'stva Ministerstva sel'skogo khozyaystva Mariyskoy ASSR. (for Vozdvizhenskiy).
(Building)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Aid from the ministry is needed. Avt. transp. 34 no.8: 24 AG '56. (MLRA 9:10)

1. Komandir Alekseyevskoy avtoroty Tamarskogo avtotresta.
(Alekseyevka--Transportation, Automotive)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

LEONT'YEVA, Tamara Konstantinovna; SEMENOV, A., redaktor; LIL'YE, A., tekhnicheskiy redaktor

[Lenin's Shatura] Leninskaia Shatura. [Moskva] Moskovskii rabochii, 1956. 106 p. (MLRA 9:11)
(Shatura--Electric power stations)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.; BIRGER, I.

A uniform guide for the standardization of time and automobile repair estimates is necessary. Avt.transp. 32 no.12:27 D '54. (MLRA 8:3)

1. Stalingradgidrostroy.
(Automobiles--Repairing)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Kakhovka Reservoir. Nauka i zhizn' 22 no.12:5-7 D '55.
(Kakhovka Reservoir) (MLRA 9:2)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Mechanization of labor-consuming processes on track divisions.
Zhel.dor.transp. 36 no.3:78-79 Mr '55. (MIRA 12:5)

1. Nachal'nik distantsii puti, stantsiya L'gov II.
(Railroads--Track)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

L 05817-67 EWT(1) RO

ACC NR: AP6033326 (A) SOURCE CODE: UR/0017/66/000/008/0023/0023

AUTHOR: Semenov, A. (Baranovichi BSSR)

ORG: none

TITLE: Contamination is discovered [device eliminating radioactive contamination of railroad cars and installations]

SOURCE: Voyennyye znaniya, no. 8, 1966, 23

TOPIC TAGS: nuclear decontamination method, railroad, nuclear decontamination, railway structure, railway rolling stock, decontamination

ABSTRACT: A degasification and radiation decontamination device described in the original article is mounted on a railroad tank car filled with decontaminating solution and hauled by a locomotive. This device can decontaminate railroad trains, railroad station buildings and installations, and an area 30 m wide around the tracks. It can treat the roadbed and two trains at once while moving between them on parallel tracks at a speed of 5—7 km/hr. The device can decontaminate 70 two-axle railroad cars in 16 minutes, using a little over 19 m^3 of water from a 60 m^3 tank. Orig. art. has: 2 figures.

SUB CODE: 13, 18, 06/ SUBM DATE: none/

Card 1/1 KH

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

At the agricultural exhibition. Znan.sila 30 no.10:15-16 O'55.
(MLRA 8:12)
(Moscow--Agricultural exhibitions)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.; SMIRNOV, V.P.; SHVEDCHIKOV, A.; SHVEDCHIKOV, A.; SEMENOV, A.

Plastics abroad. Plast.massy no.4:70-71 '62. (MIRA 15:4)
(Plastics)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

USSR/Cultivated Plants. Fruit Trees. Small Fruit Plants. M

Abs Jour: Ref Zhur-Biol., No 17, 1958, 77835.

Author : Semenov, A.
Inst :
Title : Spread Cultivation of Apple Trees in Siberia.

Orig Pub: S. kh. Sibiri, 1958, No 1, 50-52.

Abstract: No abstract.

Card : 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., inzhener.

Activities of the Technical Council of the Ministry of Meat and Dairy Industry of the U.S.S.R. Mias. ind. SSSR 25 no.6:42-43 '54. (MLRA 8:1)

(Meat industry) (Dairying)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., inzhener.

Mechanization of the meat processing industry in the sixth five-year plan. Mias.ind.SSSR 27 no.3:6-7 '56. (MIRA 9:9)

1.Gostekhnika SSSR.
(Packing houses--Equipment and supplies)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

107-57-5-34/63

AUTHOR: Semenov, A., Umanskiy, G.

TITLE: TV in National Economy (Televideniye v narodnom khozyaystve)

PERIODICAL: Radio, 1957, Nr 5, p 32 (USSR)

ABSTRACT: Advantages of tv applications in the national economy are briefly discussed. First steps in this field have been made in the USSR: a metallurgical plant has been equipped with an experimental tv setup; some tv equipment has been tested in the oil drill-hole industry; the Institute of Oceanology, AS USSR, has tried a tv outfit for underwater observations; another tv outfit has been tested in hump-yard work. In Khimki water reservoir, Moscow, a specially designed tv camera—bathysphere was tested for observation of underwater structures. Tests, however, did not prove successful as water was of such quality that "a diver could discern objects only at a distance of 10 cm or closer". (Abstractor's note: 10 cm is about 4 inches). Tv equipment was also tested on high-board river vessels for scanning the dead space around the vessel at times of mooring. At the Southern Port, Moscow, tv hookups were tested for bringing the whole territory of the Port to the desk of dispather. Tv was also tested in sluice operations at the #7 Sluice imeni Moscow. Manufacture of the first tv outfit for RR transport work is being completed; the equipment will be installed at one of the hump-yards near Moscow.

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Fate of a scientist ("Ulugbek" by G.Golubev. Reviewed by A. Semenov). Znan.sila 35 no.10:44 O'60. (MIRA 13:11)
(Ulugbek, Mukhammed Taragai, 1394-1449) (Golubev, G.)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

ACC NR: AP7006119 SOURCE CODE: UR/0209/67/000/001/0070/0072

AUTHOR: Semenov, A. (General lieutenant of aviation; Hero of Soviet Union)

ORG: none

TITLE: Attack hours and the growth of military training [pilot training]

SOURCE: Aviatsiya i kosmonavtika, no. 1, 1967, 70-72

TOPIC TAGS: pilot training, air force training

ABSTRACT: Writing on pilot training, Aviation Lt.-Gen. A. Semenov states that there are still too many defects that slow down the combat training of pilots. Every commander must plan the flight training in such a way that nothing impedes combat readiness. In practice, the flight commanders are often inexperienced and do not thoroughly know the standards and instructions, and give incorrect evaluations of the training. Consequently, there are paradoxes when the pilot knows that he failed in the attack, and unexpectedly obtains a high rating. Such important problems as proper armament are often not taken into account, and later photos show that in actual combat the aggressor would not

Card 1/2 UDC: none

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Bibliographic guides of the current Soviet and foreign literature on plastics (State Public Scientific and Technical Library) at the Siberian Division of the Academy of Sciences of the U.S.S.R. Plast.massy no.7:78-79 '60. (MIRA 13:10)
(Bibliography--Plastics) (Siberia--Catalogs, Library)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., tokar'

We should equal Moscow workers' achievements. Mashinostroitel' no.12:43 D '60. (MIRA 13:12)

1. Nevskiy mashinostroitel'nyy zavod im. V.I. Lenina.
(Technological innovations)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

"Large scale play" by E. Zagorianskii. Reviewed by A. Semenov. Znan.-sila 37 no.7:39 Jl '62. (MIRA 15:9)
(Chess)
(Zagorianskii, E.)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., prepodavatel' spetsial'noy tekhnologii

Mastering the experience of progressive construction workers.
Prof.-tekh.obr. 19 no.1:8-9 Ja '62. (MIRA 15:1)

1. Stroitel'noye uchilishche No.6, Leningrad.
(Building trades--Study and teaching)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

New wage system for highway transport workers. Avt.transp. 38 no.11:32-38 N '60. (MIRA 13:11)

1. Nachal'nik otdela truda i zarabotnoy platy Ministerstva avtomobil'nogo transporta i shosseynykh dorog RSFSR.
(Highway transport workers) (Wages)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.; OKOL'NIKOV, A.

Achievements are born from competition. Rech. transp. 20 no.10:32 O '61. (MIRA 14:9)

1. Direktor Moskovskogo sudostroitel'nogo i sudoremontnogo zavoda (for Semenov). 2. Nachal'nik otdela truda i zarabotnoy platy Moskovskogo sudostroitel'nogo i sudoremontnogo zavoda (for Okol'nikov).
(Socialist competition)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MALININ, V.; BUDANTSEV, A., naladchik; SINEL'NIKOV, V.; KAUSTOV, V.; KAKORINA, N.; SILIN, A.; SOKOL'SKIY, A.; LOBOV, V.; KORTADZE, N.; SEMENOV, A.; ADAMOV, B.

Tribune of the "Communist Youth League Searchlight" movement. Tekh.mol. 30 no.9:2,3,14,15,16 '62. (MIRA 15:9)

1. Sekretar' Tul'skogo oblastnogo komiteta Vsesoyuznogo Leninskogo kommunisticheskogo soyuza molodezhi (for Malinin). 2. Mekhanicheskiy tsekh Tul'skogo oruzheynogo zavoda (for Budantsev). 3. Sekretar' Khar'kovskogo oblastnogo komiteta Leninskogo kommunisticheskogo soyuza molodezhi Ukrainy (for Sinel'nikov). 4. Sekretar' komiteta kommunisticheskogo soyuza molodezhi Khar'kovskogo traktornogo zavoda (for Khaustov). 5. Sborochnyy tsekh zavoda priborov imeni Yu.Gagarina g. Orel (for Kakorina). 6. KZTZ (for Silin). 7. Zamestitel' sekretarya komsomol'skoy organizatsii Rostovskogo zavoda sel'skokhozyaystvennogo mashinostroyeniya (for Lobov). 8. Sekretar' komiteta Kommunisticheskogo soyuza molodezhi shokhty No.1 tresta "Tkvarcheliugol'" (for Kortadze). 9. Sekretar' komiteta Kommunisticheskogo soyuza molodezhi sela Kalinovki (for Semenov). 10. 3-iy mekhanicheskiy tsekh Gor'kovskogo zavoda frezernykh stankov (for Adamov).

(Communist Youth League) (Efficiency, Industrial)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

RYAKHOVSKIY, V.; RAGIMOV, Z., kand. biolog. nauk; SULEYMANOV, S., mladshiy nauchnyy sotrudnik; SHVETSOVA, A., dotsent; SEMENOV, A., assistent; GROMOVA, A., kand. biolog. nauk; SELIN, I., nauchnyy sotrudnik; LAZHAUNIKAS, Ye.; MELESHKO, R.; PREOBRAZHENSKIY, V., starshiy prepodavatel'

To the attention of a plant protector. Zashch. rast. ot vred. i bol. 10 no.6:40-43 '65. (MIRA 18:7)

1. Zaveduyushchiy otdelom zashchity rasteniy Luganskoy sel'skokhozyaystvennoy opytnoy stantsii (for Ryakhovskiy). 2. Azerbaydzhanskiy nauchno-issledovatel'skiy institut zashchity rasteniy, Kirovabad (for Ragimov, Suleymanov). 3. Omskiy sel'skokhozyaystvennyy institut (for Shvetsova, Semenov). 4. Otdel zashchity rasteniy Smolenskoy sel'skokhozyaystvennoy opytnoy stantsii (for Selin). 5. Zaveduyushchiy Tel'manskim punktom signalizatsii i prognozov, Karagandinskaya oblast' (for Lazhaunikas). 6. Zaveduyushchaya Vitebskim punktom signalizatsii i prognozov (for Meleshko). 7. Buryatskiy sel'skokhozyaystvennyy institut (for Preobrazhenskiy.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

ANATOL'EV, V.; SEMENOV, A.; BELYAKOV, M., dotsent, general-mayor inzhenerotekhnicheskoy sluzhby

New publications. Znan.-sila 37 no.9:45 S '62. (MIRA 15:12)
(Astronautics)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Reservoir built with plastics (from "Connaissance des plastiques," no.22, 1962). Plast. massy no.11:74 '62. (MIRA 16:1)

(France—Polyethylene)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

LABUTIN, A.L.; MAKAROVA, Ye.I.; SEMENOV, A.A.

Use of butyl rubber in anticorrosion rubbers. Kauch.i rez. 22 no.2:19-21 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Lebedeva.
(Butyl rubber)
(Corrosion and anticorrosives)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, Aleksey Aleksandrovich, tokar'-rastochnik; KORNILOVA, M.I., red.; KOROBOVA, N.D., tekhn.red.

[Soviet products stand for excellent quality] Sovetskoe - znachit otlichnoe. Moskva, Izd-vo VTsSPS Profizdat, 1961. 76 p. (MIRA 15:5)

1. Leningradskiy zavod "Russkiy dizel'" (for Semenov).
(Leningrad--Machinery industry--Quality control)
(Socialist competition)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MESHALKIN, Ye.N., prof.; MESHALKIN, I.N.; KELIN, Ye.P., kand.med.nauk; SEMENOV, A.A.; YAGAFAROV, L.M. (Novosibirsk)

Changes in the hemodynamics of the lesser circulation during mitral commissurotomy. Klin.med. 40 no.10:36-42 O '62. (MIRA 15:12)

1. Iz Instituta eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR (dir. - prof. Ye.N.Meshalkin).

(MITRAL VALVE--SURGERY) (PULMONARY CIRCULATION)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MESHALKIN, Ye. N., prof.; MESHALKIN, I. N.; MAZHBICH, B. I.; KELIN, Ye. P.; ILYUKHINA, L. B.; SEMENOV, A. A.

Diagnostic value of curves of the pulmonary-capillary pressure and left auricular pressure in mitral defect and the means for their evaluation. Terap. arkh. 34 no.5:25-31 '62. (MIRA 15:6)

1. Iz serdechno-sosudistogo otdeleniya dlya vzroslykh (zav. I. N. Meshalkin) i laboratorii fiziologii (zav. T. S. Vinogradova) Instituta eksperimental'noy biologii i meditsiny (dir. - laureyat Leninskoy premii prof. Ye. N. Meshalkin) Sibirskogo otdeleniya AN SSSR.

(MITRAL VALVE--DISEASES) (HEART--EXAMINATION)
(CATHETERS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.; FILIPPOVA, V.S., red.; SMIRNOVA, M.I., tekhn.red.

[A club of milling machine operators] Kruzhok frezerovshchikov. Moskva, Gos.uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1957. 31 p. (MIRA 11:2)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye shkol. (Milling machines)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

Semenov, A.A.

NARZIKULOV, Ibadullo Kasimovich; SEMENOV, A.A., prof., red.

[Brief notes on cottage industries in Tajikistan before the Revolution] Kratkie svedeniia o dorevoliutsionnoi kustarnoi promyshlennosti Tadzhikistana. Stalinabad, 1957. 67 p. (Akademiia nauk Tadzhikskoi SSR, Stalinbad, Trudy, vol. 81).

(MIRA 11:4)

(Tajikistan--Cottage industries)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MAZITOVA, F.S.; OSICHEVA, M.A.; SEMENOV, A.A.

Developmental trends and principle arrangements for supplying gas to cities in Tajikistan. Izv.Otd. est. nauk AN Tadzh.SSR no.22:147-159 '57. (MIRA 11:8)

1.Otdel energetiki AN Tadzhikskoy SSR.
(Tajikistan--Gas, Natural)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MAZITOVA, F.S.; SEMENOV, A.A.

Selecting the coruse of development of the fuel trade in southern Tajikistan. Izv.Otd.est.nauk AN Tadzh.SSR no.2: 67-79 '58. (MIRA 13:4)

1. Otdel energetiki AN Tadzhikskoy SSR.
(Tajikistan--Fuel)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, N.N.

SOV/129-59-3-12/16

AUTHORS: Semenov, A.A., Candidate of Technical Sciences and Aleksakhin, I.A., Engineer

TITLE: Linear Shrinkage of Alloys of the Zinc Corner of the Systems Zinc-aluminium-copper and Zinc-aluminium-magnesium (Lineynaya usadka splavov tsinkovogo ugla sistem tsink-alyuminiy-med' i tsink-alyuminiy-magniy)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov, 1959, Nr 3, pp 48 - 51 (USSR)

ABSTRACT: Zinc-base alloys are proposed for substituting lead-antimony-tin alloys for casting blocks in the printing industry (Refs 1,2). However, the shrinkage of zinc alloys is considerably greater than that of lead alloys and this necessitates changes in the dimensions of the moulds if printing characters should, in both cases, be of the same size. Since zinc printing alloys contain aluminium, copper and magnesium, it is necessary to study the shrinkage in alloys of the zinc corner of the systems Zn-Al-Cu and Zn-Al-Mg, with contents of up to 10% Al, up to 6% Cu and up to 3% Mg, which are the limit compositions for zinc-base printing alloys. The linear shrinkage λ was determined by measuring the length of

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

Linear Shrinkage of Alloys of the Zinc Corner of the Systems Zinc-aluminium-copper and Zinc-aluminium-magnesium

obtained diagram of the shrinkage is in agreement with the diagram determined by A.B. Lakedemonskiy (Ref 7) a few years earlier. In the system Zn-Al-Mg the shrinkage will be lowest (1.2%) for the alloy containing 8.5% Al and 1% Mg and for the alloy containing 1% Al and 2-3% Mg (shrinkage 1.1%). These minimum-shrinkage alloys have a high fusion temperature and cannot be applied for casting printing blocks. For this purpose, the authors recommend use of alloys with a low but not the minimum shrinkage. There are 3 figures and 7 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut poligraficheskoy promyshlennosti (All-Union Scientific-research Institute of the Printing Industry)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

CHETVERIKOV, D.I.; TARASOVA, A.G.; SEMENOV, A.A.

Continuous recovery of ethyl acetate and ethyl alcohol from waste waters of ethyl acetate manufacture. Gidroliz. i lesokhim.prom. 13 no.7:15-17 '60. (MIRA 13:10)

1. Ashinskiy lesokhimicheskiy kombinat.
(Asha--Ethyl acetate) (Asha--Ethyl alcohol)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A. [deceased]

Reflex regulation of pulmonary volume in extrapleural pneumothorax. Trudy LSGMI 39:184-188 '58. (MIRA 12:8)

1. Klinika legochnogo tuberkuleza (zav.klinikoy - prof.Ye.Ye. Klionskiy) i Kafedra patologicheskoy fiziologii (zav.kafedroy - prof.L.R.Perel'man nauchnyy rukovoditel' po khirurgii - z.d.n., prof.A.V.Smirnov) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(PNEUMOTHORAX, ARTIFICIAL,
extrapleural, reflex regulation of pulm. volume (Rus))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A. [deceased]

List of earthquakes recorded in Central Asia and adjacent territories from ancient times to 1830. Trudy AN Tadzh.SSR 94:37-52 '58. (MIRA 13:4)

(Asia--Earthquakes)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MESHALKIN, Ye.N., prof. (Novosibirsk, ul. Potanina, d.23, kv.1); MESHALKIN, I.N.; LEVINSON, Yu.M.; VAYNBAUM, Ya.S.; SEMENOV, A.A.

Surgical treatment of mitral stenosis. Vest.khir.90 no.2: 70-75 F'63. (MIRA 16:7)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir. prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR.
(MITRAL VALVE--SURGERY)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.

Significance of the functional state of the myocardium of the left auricle in the pathogenesis of pulmonary hypertension in man. Bul. eksp. biol. i med. 56 no.7:39-44 Jl '63 (MIRA 17:3)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir.-prof. Ye.N. Meshalkin) Sibirskogo otdeleniya Akademii nauk SSSR, Novosibirsk. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

MESHALKIN, Ye.N. ; MESHALKIN, I.N.; KELIN, Ye.P.; LEVINSON, Yu.M.; SEMENOV, A.A.

Comparative evaluation of mitral commissurotomy performed with the finger or instruments according to data on the decrease of the diastolic gradient during an operation. Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:15-19 '63. (MIRA 17:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A., inzh.

Construction of a bolted crossing on railroads servicing building ships and cranes. Rech. transp. 24 no.5:34 '65. (MIRA 18:9)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.

Device for replacing supports of overhead power lines. Zhil.-kom. khoz. 10 no.5:30-31 '60. (MIRA 13:10)

1. Nachal'nik ekspluatatsii Ukhtomskogo otdeleniya Mosoblelektro.
(Electric lines--Poles)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.

Rectilinear profiling of slitting and herringbone hobs. Stan.i instr. 32 no.12:32-33 D '61. (MIRA 14:12)
(Metal-cutting tools)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

DEREVYANKO, P.A.; Prinimal uchastiye: SEMENOV, A.A., inzh.

Consideration of the diversification of expenditures and problems of their distribution in the determination of the economic effectiveness of water resource developments. Probl. gidroenerg. i reg. rech. stoka no.11:90-98 '63. (MIRA 18:3)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.

Critical analysis of some suggestions on the distribution of expenditures in water resource developments. Probl. gidroenerg. i reg. rech. stoka no.11:99-106 '63.

(MIRA 18:3)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

LABUTIN, A.L.; SEMENOV, A.A.

Welding of brand PSG polyisobutylene plates. Kauch. i rez. 24 no.6:33-34 Je '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

OSTRYAKOV, Konstantin Ignat'yevich; OSEPYAN, Arshak Yefremovich; SEMENOV, Aleksandr Alekseyevich; BRAYLOVSKIY, N.G., red.

[Manual for the passengercar conductor crew foreman and mechanic] Posobie mekhaniku-brigadiru provodnikov passazhirskikh vagonov. Moskva, Transport, 1965. 379 p. (MIRA 18:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

1. KESSENIKH, V. N. and SEMENOV, A. A.

2. USSR (600)

4. Physics and Mathematics

7. Propagation of Radiowaves in the Ionosphere, Ya. L. Al'pert. (Moscow-Leningrad, State Technical Press). Reviewed by V. N. Kessenikh, and A. A. Semenov, Sov. Kniga, No. 1, 1949.

9. [redacted] Report U-3081, 16 Jan 1953, Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A. A. Cand. Physicomath Sci.

Dissertation: "Range Capacities of the Radiating and Power-Conducting Systems."

15/11/50
Moscow Order of Lenin State U. imeni.
M. V. Lomonosov

SO Vecheryaya Moskva
Sum 71

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A. A.

Dukov, V. M. and Semenov, A. A. (Reviews and Bibliography) Article by T. P. Kravets "The Evolution of the Teaching of Energy". P. 129

Chair of History of Physics and
Chair of Propagation of Radiowaves
July 17, 1950

SO: Herald of the Moscow University, Series on Physics-Mathematics and Natural Sciences, No. 3, No. 5, 1951

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.

Range properties of certain electromagnetic emitters. Vest. Mosk.un. 8 no. 2:35-42 F '53. (MLRA 6:5)

1. Kafedra rasprostraneniya radiovoln. (Radio waves) (Antennas (Electronics))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

DOLUKHANOV, M.P.; SEMENOV, A.A., redaktor; SOKOLOVA, R.Ya., tekhnicheskiy redaktor

[How radio waves are propagated] Kak rasprostraniaiutsia radiovolny. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1954. 83 p. [Microfilm] (MLRA 7:9)

(Radio waves)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A. A.

USSR/Physics - Radiowave Propagation Jan 54

"Range Properties of Certain Electromagnetic Emitters," A. A. Semenov, Chair of Radiowave Propagation

Vest Moskov U, Ser Fiz-Mat i Yest Nauk, No 1, pp 35-42

The article states that wide frequency range is an important requirement in an electromagnetic emission system. It can be obtained artificially by use of an absorption resistance, but a more natural and desirable method is to employ a heterogeneous feeder as a transformer of wave resistances, which

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permits a smooth conversion to the wave resistances of free space. Experimental results were obtained for the dependence of frequency range and characteristics on form and type of emitter vibrator. These results are discussed theoretically as well as for their practical value in the construction of antennae. Presented 21 Jul 51.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

NASILOV, Dmitriy Nikolayevich; KHRGIAN, A.Kh, professor, redaktor; SEMENOV, A.A., redaktor; RYDNIK, V.I., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[Radiometeorology; radio methods in meteorology] Radiometeorologiia; radiometody v meteorologii. Pod red. A.Kh.Khrgiana. Moskva, Gos. izdvo tekhniko-teoret. lit-ry, 1956. 215 p. (MIRA 9:12)
(Meteorology) (Atmospheric electricity)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.;KARPEYEV, G.A.

Nature of the fast damping of a radio signal when it is propagated through a prism type course. Vest. Mosk. un. Ser. mat., mekh., astron. fiz., khim. 12 no. 6:69-85 '57. (MIRA 11:10)

1. Kafedra rasprostraneniya, izlucheniya i kanalizatsii elektromagnitnykh voln Moskovskogo gosudarstvennogo universiteta.
(Radio waves--Damping)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

AUTHORS: Semenov, A.A., Kvavadze, D.K., Nazarova, L.G. SOV/55-58-1-13/33
and Zvyagintseva, I.I.

TITLE: The Investigation of the Properties of Reflection of Some Systems With a Periodic Structure (Issledovaniye otrazhatel'nykh svoystv nekotorykh sistem, imeyushchikh periodicheskuyu strukturu)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 1, pp 107-114 (USSR)

ABSTRACT: The paper contains the results of an experimental investigation of the reflection of electro-magnetic waves 1) from metal grids with different grid constants d and wire radii r, 2) from the system screen - grid with different parameters. To 1): Case a: The vector E of the wave lies in the grid plane parallel to the axis of the wire. It is stated that for d = const the radius r influences the reflection only then essentially if d/λ is relatively small. The theoretical results obtained by Yampol'skiy [Ref 6] are confirmed by the experiment only for angles of incidence up to 50° . Case b: The vector H of the wave lies in the grid plane perpendicular to the axis of the wire. For large d/λ the influence of r also here is very little. To 2): Let the reflecting grid be replaced by a conducting plane and a rotating

Card 1/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

The Investigation of the Properties of Reflection of Some Systems With a Periodic Structure SOV/55-58-1-13/33

grid. It is stated that the coefficient of reflection can be diminished essentially by the introduction of the grid. There are 9 references, 3 of which are Soviet, 4 German, 1 Canadian, and 1 American.

ASSOCIATION: Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln (Chair of Propagation, Emission, and Guiding of Radio Waves)

SUBMITTED: February 16, 1957

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

6(4) SOV/55-58-2-10/35

AUTHORS: Semenov, A.A., Karpeyev, G.A.

TITLE: An Investigation of the Methods of Measurement of Antenna Impedance in Order to Characterize the Electric Parameters of the Medium (Issledovaniye metodiki izmereniya antennykh impedansov dlya kharakteristiki elektricheskikh parametrov sredy)

PERIODICAL: Vestnik Moskovskogo Universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 2, pp 77-84 (USSR)

ABSTRACT: The authors describe a special instrument for the measurement of the antenna resistance. The instrument was installed on a helicopter. The input resistance of the antenna was measured during the flight over a ground plane with variable electric characteristic values. To sudden variations of the ground parameters there corresponded sudden variations of the resistance. Some measurements were carried out by T.P. Flerova. The authors thank Professor A.N. Tikhonov for his assistance.
There are 7 figures, and 13 references, 4 of which are Soviet, 3 Irish, 5 American, and 1 Canadian.

ASSOCIATION: Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln [Moscow Univ.]

Card 1/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SEMENOV, A.A.; KARPEYEV, G.A.

Structural and correlation functions used for the study of stochastic physical processes. Izv. vys. ucheb. zav.; fiz. no.3:39-42 '58. (MIRA 11:9)

1. Moskovskiy ordena Lenina gosuniversitet imeni M.V. Lomonosova.
(Correlation (Statistics))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SUBMITTED: December 7, 1957

AUTHORS: Golubkov, P.V. and Talmring, Sh. Ya. SOV/109-3-3-22/23

TITLE: The Second All-Union Conference on Radioelectronics of the Ministry of Higher Education of the USSR (Vtoraya vsesoyuznaya konferentsiya MVO SSSR po radioelektronike) - News Item

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol 3, Nr 3, pp 440 - 444 (USSR)

ABSTRACT: The conference took place during September 23 - 29, 1957 at Saratovskiy gosudarstvennyy universitet imeni N.G. Chernyshevskogo (Saratov State University imeni N.G. Chernyshevskiy). Apart from the universities, the conference was attended by the representatives of scientific research institutes of the Soviet and Ukrainian Academies of Science, various industrial establishments and the interested ministries. This arrangement stimulated the discussion and evaluation of the papers presented and permitted the determination of plans for the future research to be carried out by the universities in the field of radioelectronics.

Card1/16

The paper by A.A. Sredney and G.A. Karneyev entitled: "The Problems of the Statistical Evaluation of the Results of Measurements in the Investigation of the Rapid Fluctuations of Ultra-shortwave Radio Signals" aroused considerable interest; similarly, the paper by A.A. Semenov and Ch.Ts. Teydypov under the title "Investigation of the Variations of the Direct Radio Signal Propagation in the Non-uniform Troposphere over a Ground Path" was of considerable interest. The latter paper gave some results of an experimental investigation of the fading of the direct ray over a medium-distance ground path. The statistical characteristics of the amplitude fluctuation of the signal were investigated and an attempt was made to clarify the mechanism of the signal variations. During the ensuing discussion, the great practical value of the above works was emphasized and it was suggested that the work should be extended in order to attain a greater accuracy. Twelve papers and communications were read at the Semi-conductor Section. L.C. Bereman gave an approximate method of calculating the transients in a transistor operating with

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large signals.

made of ultra-china clay (kaolin) and a [illegible] silicone carbide (the absorbing component). The investigation showed that the samples produced had satisfactory characteristics. The development of non-linear semi-conductor resistances was described in a paper of V.V. Pasynkov and L.K. Chirkin; resistance elements for powers of 10-15W were produced and their applications were studied. A method of calculating an inverse peak current in p-n diodes was given in the paper of L.I. Berenov and L.C. Bekbulatov. The formulae obtained made it possible to explain various forms of the peaks observed in the experiments. The paper by Yu.N. Ar'yan, G.N. Berestovskiy, L.N. Kaptsev, V.V. Migulin, K.S. Rzhevkin, K.Ya. Senatorov and T.N. Yastrebtseva contained a survey of the works dealing with the applications of transistors in various radio circuits. [illegible] G.N. Berestovskiy read a paper in which he gave the analysis of the operation of a transistor AC-DC converter. The experimental data corroborated the accuracy of the formulae proposed by the author and showed that a high conversion efficiency could be obtained with a number of Soviet transistors. During the conference, a number of trips were arranged to various industrial establishments of the town of Saratov. During the closing plenary session of the conference, on September 28, a unanimous resolution summarising the work of the conference and containing recommendations with regard to the subject matter and the plans for the future work was adopted. It was also decided that the third All-Union conference of the Ministry of Higher Education of the USSR on radioelectrons would be held in Khar'kov in September, 1959.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

06489
SOV/141-58-4-5/26

AUTHORS: Semenov, A.A. and Karpeyev, G.A.

TITLE: An Estimate of the Statistical Characteristics of Fluctuation of a UHF Radio Signal when Propagated in a Statistically Non-Uniform Medium (Otsenka statisticheskikh kharakteristik flyuktuatsiy ukv radiosignala pri rasprostranenii v statisticheski neodnorodnoy srede)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1958, Nr 4, pp 52-62 (USSR)

ABSTRACT: A theoretical estimate is made of the errors incurred when continuously integrating over a finite interval of time and also when taking discrete samples for various forms of correlation function in the process under study. An estimate is made of the optimum integrating time and of the sample size for a given statistical accuracy. Experimental data are presented relating to propagation of a 9350 Mc/s signal over an overland route. Within the zone of direct visibility the strictly mathematical definition of a random process is that of Eq (1); experimental data yield only a time record

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

An Estimate of the Statistical Characteristics of Fluctuation of a UHF Radio Signal when Propagated in a Statistically Non-Uniform Medium

the statistical quantities are defined in Eq (18). It is obvious from this expression that only when the correlation coefficient is zero will the statistical properties be identical with those obtained from the theory of sampling. If the correlation coefficient is not zero then Eq (18) can give a significantly different result. If for example, the correlation coefficient increases monotonically, then by increasing the time T and the interval between samples but leaving the number of samples unchanged, the accuracy of the estimate increases until it approaches that obtained by the other method. In other words a sample of a certain size taken over a long time interval can give greater statistical accuracy than a larger sample taken over a shorter time. The conditions are determined from the optimum values of T and n in Eq (19). An experimental time record has been numerically integrated and Tables 1a and 1b show how the mean value and the mean square deviation depend

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

An Estimate of the Statistical Characteristics of Fluctuation of a UHF Radio Signal when Propagated in a Statistically Non-Uniform Medium

of 900 seconds is adequate since even if this interval is increased to 1 hour there is an insignificant improvement in the results. It is concluded that the accuracy with which the statistical parameters may be determined when using continuous integration depends on the averaging time and the correlation characteristics of the process. When the discrete sampling method is used, better results are obtained by using n uncorrelated values than by using the same number of samples within a shorter interval of time. There are 4 tables and 6 references, 5 of which are Soviet and 1 English.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 8th January 1958

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

9(9),16(1)

AUTHORS: Semenov, A.A., and Karpeyev, G.A. SOV/55-58-4-8/31

TITLE: Estimation of the Statistical Characteristics of the Fluctuations of an Ultra Short Wave - Radio Signal During Propagation in a Statistically Inhomogeneous Medium (Otsenka statisticheskikh kharakteristik fluktuatsiy UKV radiosignala pri rasprostranenii v statisticheski neodnorodnoy srede)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 4, pp 71-84 (USSR)

ABSTRACT: An ultra short wave - radio signal is understood as a stationary random process. The normal distribution of the logaritha of the amplitude is assumed. Under some further assumptions the authors determine mean values, mean quadratic deviations, correlation coefficients etc. The performed statistical estimations agree well with the experimental results. During the evaluation of the results of measuring it was examined whether the assumption is justified that the propagation of the ultra-short wave - radio signal is a stationary random process; the admissibility of the assumption was confirmed.
There are 5 tables, and 3 Soviet references.

ASSOCIATION: Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln (Chair of Propagation, Emission, and Canalization of Radio Waves)

SUBMITTED: July 3, 1957

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810013-1

SOV/139-58-6-19/29

AUTHORS: Semenov, A.A. and Karpeyev, G.A.

TITLE: On the Decay of the Field Amplitude of an Electromagnetic Wave Propagated in a Statistically Inhomogeneous Medium (O zamiranii amplitudy polya elektromagnitnoy volny, rasprostranyayushcheysya v statisticheski neodnorodnoy srede)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 6, pp 118-122 (USSR)

ABSTRACT: The authors discuss the relationship between statistical properties of a medium and the field amplitude of an electromagnetic wave propagated through that medium. It is shown that the decay of the field amplitude (its temporal correlation function) is determined not only by the correlation function of the fluctuations of the refractive index of the medium but it depends also on the geometry of the system and the radiation patterns of the transmitting and receiving aerials. Conditions of validity of Silverman's asymptotic solutions (Ref 1) are established. It is shown that for the nature of the field amplitude fluctuations to be independent of the mean e.m.flux

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9(9)
AUTHORS: Semenov, A.A., and Karpeyev, G.A.

TITLE: On the Space-Time Correlation of Fluctuations in Amplitude of the Field of an Electromagnetic Wave Passing Through a Statistically Non-Homogenous Medium (O prostranstvenno-vremennoy korrelyatsii flyuktuatsiy amplitudy polya elektromagnitnoy volny, proshedshey cherez statisticheski neodnorodnuyu sredu)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1958, Nr 6, pp 724-730 (USSR)

ABSTRACT: The authors present the results of a theoretical and experimental investigation of the speed of fading as a function of the averaged flux velocity and the carrier frequency of the radiation being studied. The article also includes a theoretical evaluation of the relation between the space-time correlation of the fluctuations in the field of an electromagnetic wave and fluctuations in the dielectric constant of the medium. In 1955-1957,

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On the Space-Time Correlation of Fluctuations in Amplitude of the Field of an Electromagnetic Wave, Passing Through a Statistically Non-Homogenous Medium

radiation. Two transmitters were used, one at 3000 mc with pulse duration of 1 M/sec, p.r.r. of 400 cps, and pulse power of 80 kw, the other at 9390 mc, with 0.45 M/sec pulses, p.r.r. of 1200 cps, and a power of 88 kw. Receivers were similar to the above. Parabolic antennae with 3 deg (9390 mc), and 18 deg (3000 mc) directivity patterns were used. Measurements were made by the radio-location method. Fluctuations in the amplitude of field, reflected from stable reflectors at one end of the land line, were studied. The authors describe the study of the relation of the speed of fading to 1) the averaged velocity of flux, and 2) the carrier frequency. The following conclusions are offered: The space-time correlation of the field of an electromagnetic wave, passing through a statistically non-homogenous medium, has special

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On the Space-Time Correlation of Fluctuations in Amplitude of the Field of an Electromagnetic Wave Passing Through a Statistically Non-Homogenous Medium

interval of 50 sec.; the speed of fading, defined as the result of the statistical analysis of the recording in time of the field amplitude, is a function of averaging time, and decreases with an increase in the latter, attaining a steady state value over an averaging time interval of 6-9 min.; speed of fading may not be presented as the product of two functions, one of which is a function of wind velocity, the other of the carrier frequency, as hitherto believed. This article was recommended by the Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova (Chair of Propagation, Radiation, and Channeling of Radio Waves of the Moscow State

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SEMENOV, A.A.; KARPEYEV, G.A.

Investigation of methods for measuring antenna impedances for determining the electric parameters of a medium. Vest.Mosk. un.Ser.mat.,mekh.,astron.,fiz.,khim. 13 no.2:77-84 '58. (MIRA 12:2)

1. Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln. Moskovskogo universiteta.
(Antennas (Electronics)) (Electric measurements)

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